

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

THIS PAGE BLANK (USPTO)



Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number:

0 058 535
A2

EUROPEAN PATENT APPLICATION

(12)

(21) Application number: 82300705.9

(51) Int. Cl.³: **A 47 B 17/00**

(22) Date of filing: 12.02.82

(30) Priority: 12.02.81 GB 8104305
12.02.81 GB 8104307
12.02.81 GB 8104308
12.02.81 GB 8104309

(43) Date of publication of application:
25.08.82 Bulletin 82/34

(84) Designated Contracting States:
AT BE CH DE FR GB IT LI LU NL SE

(11) Applicant: ARENSON INTERNATIONAL LIMITED
Lincoln House Colney Street
St. Albans Herts. AL2 2DX(GB)

(72) Inventor: Hunter, Anthony George
68 Houghton Road
St. Ives Huntingdon(GB)

(72) Inventor: Jessney, Stephen Martin
83 Stanford Road
Luton Bedfordshire(GB)

(70) Representative: Daley, Michael John et al,
F.J. CLEVELAND & COMPANY 40/43 Chancery Lane
London, WC2A 1JQ(GB)

(64) Improvements in desks.

(65) A desk with a working top (15) and optionally suspended storage pedestals (35) has a hollow cross beam (9) housing electrical or other services, the connections to the services running up a channel 10 in the or each side upright 4. The suspension arrangement for pedestal (35) includes hangers running across the undersurfaces of front and rear rails (7) and the main beam (9).

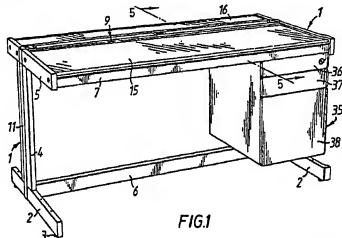


FIG.1

EP 0 058 535 A2

COMPLETE DOCUMENT

- 2 -

DESCRIPTION

This invention relates to desks. The word desk in this specification is used in its functional sense to mean any article of furniture, with or without storage space, providing a working
5 surface. Thus, for example, a writing table without drawers or other sliding compartments as well as the more conventional drawered desk.

A desk in accordance with the present invention is characterised by the following features:-

- 3 -

1) The desk top is supported between side members each comprising upper and lower horizontal elements linked by an upright;

2) A side member upright has a channel with
5 a removable cover for the housing of services such as electrical cables;

3) A frame supporting the desk top has a main member or beam extending between the upper elements of the support members, this main beam
10 member being hollow for housing the services such as electric cables.

4) The main beam member has at least a front horizontally extending channel which receives the rear edge part of a desk top, the front
15 edge part of the desk top resting on a rail extending between the upper parts of the support members.

The desk frequently includes a suspended element which may be a storage compartment.

20 According to a second aspect of the present invention there is provided an article of furniture, preferably but not necessarily a desk, charac-

- 4 -

terised in that at least one rail extends across the undersurface of a generally horizontally disposed surface and at least one hanger is fixed to the suspended element, the hanger and the rail being formed for mutual sliding interengagement.

Typically there will be a plurality of rails extending laterally in parallel with one another. For example in a desk three rails extend under the top, a front rail, a back rail and an intermediate rail and there are two hangers for each rail provided at laterally spaced locations on a suspended pedestal.

This second aspect of the invention is applicable to articles of furniture other than desks.

According to a third aspect of the present invention a suspension arrangement for the suspended element is characterised by forming the element and the undersurface of the horizontally disposed member with two alternative interengagement locations, one location bringing the suspended element further forward than the other.

Thus considering the invention as applied to a desk with a single suspension member and suspended element such as a pedestal, more than one

- 5 -

style of desk top can be accommodated. For example with certain tops a dependant flange or facing masks the front suspension rail of the pedestal whilst in a simplified arrangement the front of the rail may be left bare. A suspension arrangement in accordance with the present invention allows one suspension rail and one type of hanger for the pedestal to accommodate both these situations.

10 Thus in an embodiment a suspension rail has a longitudinally extending slot to receive a hanger in sliding engagement. The slot however does not extend centrally of the rail and is closer to one long side than the other. Again this third
15 aspect of the invention is applicable to articles of furniture other than desks.

A fourth aspect of the invention relates to an infill panel particularly for use in closing the sides of the desk described above, but also of
20 use in filling the space between any two vertically separated members.

In accordance with this fourth aspect of the present invention in an infill panel and surrounding frame arrangement, one edge surface of
25 the panel is formed for spigot and socket arrange-

- 6 -

ment with the corresponding part of the frame
and an opposed edge surface of the panel has
shallow projecting bearing members. The arrange-
ment is that in use the spigot and socket connec-
5 tions are engaged with the opposed panel edge
slightly laterally separated from the vertical.
The panel is then moved into its vertical func-
tional and infilling position with the bearing
members frictionally pressing against a substan-
10 tially flat portion of the frame thereby locating
the panel in the frame sufficiently firmly for
infill purposes.

The invention will now be described by
way of example and with reference to the accompany-
15 ing drawings wherein:-

Figure 1 is a perspective view of a
single-pedestal desk in accordance with a particular
embodiment of the present invention;

Figure 2 is a plan detail of part of the
20 desk top showing the main beam with part of the
cover removed to show services supplied to the desk.

- 7 -

Figure 3 is a section on the line
3 - 3 of Figure 2;

Figure 4 is a detail view looking in the
direction of the arrow A in Figure 3;

5 Figure 5 is a section on the line
5 - 5 of Figure 1;

Figure 6 is an exploded underneath
scrap view showing how the front part of a
pedestal is suspended from the front rail;

10 Figures 7 and 8 are front views further
illustrating this suspension engagement;

Figures 9 and 10 are schematic sec-
tional views showing alternative arrangements
for the front rail pedestal suspension; and

15 Figures 11 and 12 are schematic views
illustrating an in-fill panel.

Referring initially to Figure 1 of
the drawings the desk illustrated comprises two

- 8 -

side frames 1 of recumbent H-section, each comprising an elongate bottom member 2 which rests through the intermediary of castors 3 on the floor, an upright 4 and a top member 5 matching the bottom member 2. This general style of desk with the top extending forwardly unsupported by uprights is sometimes referred to as the cantilever style and the H-shaped end frames are a visual characteristic of this style. A lower transverse member 6 links the bottom members 2 of the frames 1 whilst the top members 5 are linked by front and rear rails 7, and 8 and an intermediate or main beam 9. Each upright 4 includes a channel 10 (see Figure 2) for electrical cables, telephone wires or other service elements, channel 10 in Figure 2 being masked by a removable cover 11 with snap on elements 12.

The main beam 9 is hollow and will be described with principal reference to Figures 2, 3 and 4. The beam 9 of hollow channel form is of generally rectangular cross-section and includes front and rear laterally extending channels 13 and 14 to receive and support marginal

- 9 -

parts of front and rear desk top members (see also Figure 5). The upper flange of each channel 13, 14 has a pip 17 to locate the inserted desk top part. Above each channel

5 the section continues rearwardly inwardly as a cap-retaining projection 18. A flat capping member 19 with a shallow raised centre region 20 has inturned clipping elements 21 terminating with a bead 22, resiliently to engage the projec-

10 tions 18 and dependant edge parts 23 to fit flush against the inserted desk tops 15 and 16. An upwardly extending rectangular recess 24 is formed in the lower part of the main beam member and has inserted into it and fixed a rail 25 for

15 receiving a pedestal suspension element in a manner to be described hereinafter. The rail 25 is of generally square cross-section with the lower wall formed with a slot 26, upturned edges 27 of the wall section defining the slot

20 providing the bearing surfaces for the suspension element.

As mentioned previously the inner part of the main beam receives and conceals services

- 10 -

and there is illustrated in Figures 2 and 3
a double three-pin electrical mains socket
27 fed through the intermediary of a connector
28 to a cable 29 which extends down the channel
5 10 and is thus totally hidden from its entry
to the desk unit as a whole. A plug 30 and
lead 31 is also illustrated and the lead can
emerge through capping member 19 by an outlet
such as that indicated at 32 which is partially
10 masked by selectively removable pieces 33 or
through other holes and access points in the
rail. Also illustrated is a circular capped
aperture 34 which can receive a lamp stem, in
which arrangement no flexible electrical con-
15 nection would be visible from the exterior of
the desk thus enhancing a neat and tidy arrange-
ment.

The suspension arrangements for the
pedestal will now be described with particular
20 reference to Figures 1 and 4 to 8 of the accom-
panying drawings.

As can be seen from Figure 1 the
desk illustrated includes a storage member or

pedestal 35 of box-like form depending from one side part of the desk top and unsupported at the base. The pedestal as illustrated houses three drawers 36, 37 and 38 which are progressively deeper. Referring now to Figures 5 and 6 it will be seen that the drawer-containing pedestal 35 has fixed to front, rear and intermediate cross beams 39, 41 and 40 suspension elements or hangers 42, 44 and 43 for interengagement with front, rear and intermediate rails 7, 8 and 9 on the undersurface of the desk top. As can best be seen from Figure 6 showing the front rail 7 each hanger, 42 illustrated, has an angle section body with a bottom flange 45 secured by a screw to the beam 34 and an upstanding flange. A short projection 47 defines with the lower flange 45 a channel to receive the edge part of the beam and an enlarged head 48 on flange 46 has dependant ribs 49 to engage the rail on either side of ribs 27 when inserted therein. The front and rear rails 7 and 8 are similarly shaped to rail 25 but the slot 26 is not centrally positioned for reasons which will be described with reference to Figures 9 and 10.

- 12 -

The slot in each rail has a keyhole widened entry region 50 through which the head 48 can be inserted upwardly in the direction of the arrow A in Figure 7 and then moved laterally in the direction of the arrow B of Figure 8 to a located position. A clip 5 70 is inserted into region 5 after fitting the pedestal to prevent inadvertent withdrawal.

The asymmetric location of slot 27 in the front rail 7 will now be described with reference to 10 Figures 9 and 10.

Referring to Figure 9 a standard desk top 51 of wood-based board has fixed to the undersurface thereof a suspension rail 52 of box section, the front vertical face 53 of the box section being 15 flush with the chamfered front edge part of the top. A depression 55 (inverted in use) with a basal slot 56 extends along the underwall 54 of the rail 52 behind the longitudinal centre thereof. The web 57 of a hanger 58 for a pedestal 20 (not shown) extends through the slot 56 and the enlarged head 59 of the hanger engages the inside of the rail 52 on either side of the slot as previously described. A hole 60 at the end of the rail for receiving an end fixing member

- 13 -

is positioned immediately above the slot 56.

In Figure 10 the desk top 51a, again wood-based, is of a more luxurious character and has a dependant front flange or capping member 61 which masks the rail. In this
5 arrangement the pedestal needs to be brought forward in order to achieve the correct functional and aesthetic orientation and to achieve this the rail is reversed so that the slot 56
10 and the hole 60 above it are at the front rather than the rear of the longitudinal centre line.

Referring now again to Figure 1 the space defined between elements 2, 4 and 5,
15 for example, can be infilled by a panel constructed as schematically illustrated in Figures 11, 12 and 13.

Referring initially to Figure 11 of the drawings a flat rectangular infill panel
20 62 of faced chip board or other suitable material is dimensioned to fit and close a rectangular space defined by an upright and upper and lower rearwardly projecting frame elements such as

- 14 -

for example are described in the desk previously described. It will be appreciated, however, that the panel illustrated and in accordance with the invention is, in principle, suitable
5 for closing any appropriately defined space.

The panel is shown inverted in Figure 11 to display the bottom fixing elements which comprise spaced cylindrical spigots 63 adapted to engage corresponding holes or sockets in
10 the upper edge part of the lower rail defining the space. Two sprung steel ball inserts 64 constituting bearing members are disposed at spaced locations along the upper edge surface of the panel. Figure 13 shows schematically a
15 possible form of the insert which comprises a body portion 65 adapted to be embedded in the panel edge surface, a ball 66 trapped by the body and a spring 67 urging the ball upwardly.

In use the dependant spigots are
20 located in the sockets of the frame with the main part of the panel slightly inclined out of the vertical plane defined by the frame. The upper part of the panel is then pushed into its

- 15 -

correct vertical orientation, the balls yielding sufficiently to allow ready insertion but the spring bias pressing the balls into frictional bearing location which is sufficiently secured
5 for infill purposes.

The desk described and illustrated is a single right-handed pedestal desk. It will be appreciated however that pedestals can be supported as described at either side of the top
10 or the pedestals can be omitted completely. As a further alternative the total space under the top can be filled with suspended compartments. Such an article of furniture falls within the ambit of the present invention. It should
15 further be noted that the rear top section 8 can be omitted.

CLAIMS

- 1 -

1. A desk with a top supported by side uprights and having a main member extending between the uprights with a top member extending forwardly from it characterised in that the side member and main member have channels with removable covers for services such as electric and telephone cables, access from the main member being made through the cover.
2. A desk according to Claim 1 including a suspended element such as a storage compartment characterised in that at least one rail extends across the undersurface of the desk top and at least one hanger is fixed to the suspended element, the hanger and the rail being formed for mutual sliding interengagement.
3. A desk as claimed in Claim 2 including a plurality of rails extending under the desk top the suspended element having at least two

hangers for each rail.

4. A desk as claimed in any of the preceding claims including a suspended element such as a storage compartment wherein the suspension arrangement is characterised by forming the element and the undersurface of the horizontally disposed member with two alternative inter-engagement locations, one location bringing the suspended element further forward than the other.

5. A desk as claimed in Claim 4 wherein a suspension rail extending laterally under the desk top has a longitudinally extending slot closer to one long side of the rail than the other.

6. A desk as claimed in any of the preceding claims wherein a frame is filled by an infill panel, one edge surface of the panel being formed for spigot and socket arrangement with the corresponding part of the frame and an

0058535

- 3 -

opposed edge surface of the panel having shallow projecting bearing members, the arrangement is that in use the spigot and socket connections are engaged with the opposed panel edge slightly laterally separated from the vertical and the panel is then moved into its vertical functional and infilling position with the bearing members frictionally pressing against a substantially flat portion of the frame thereby locating the panel in the frame sufficiently firmly for infill purposes.

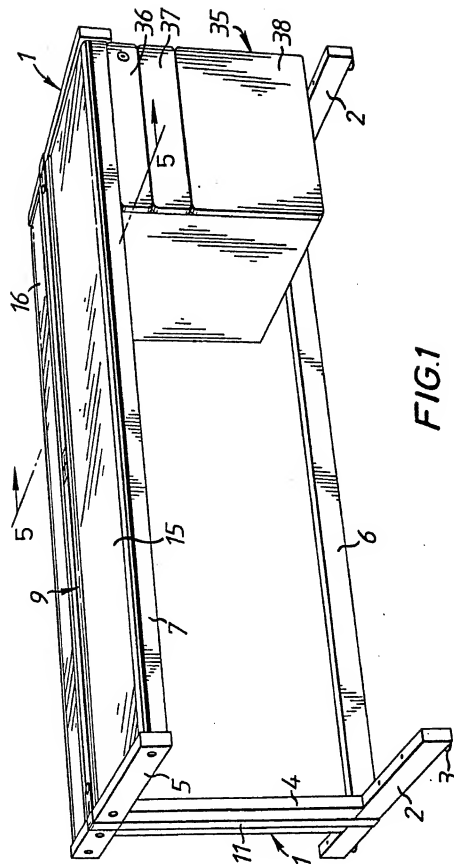
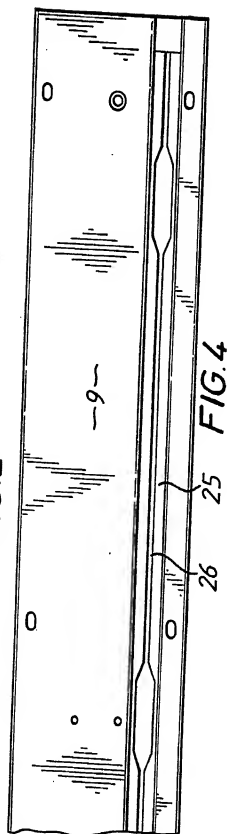
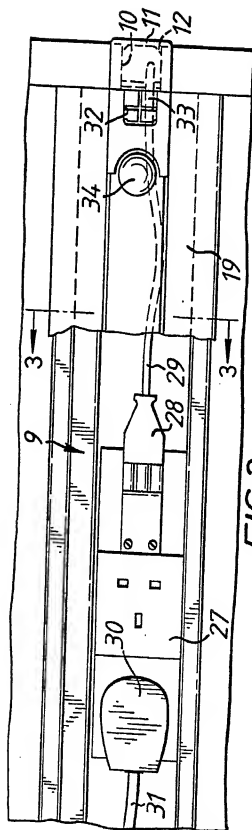
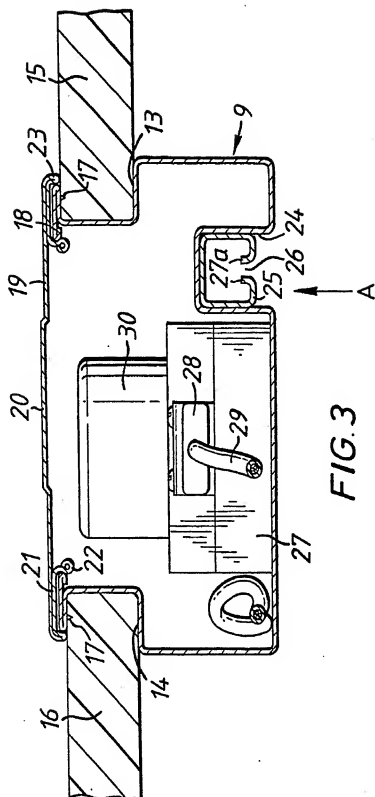
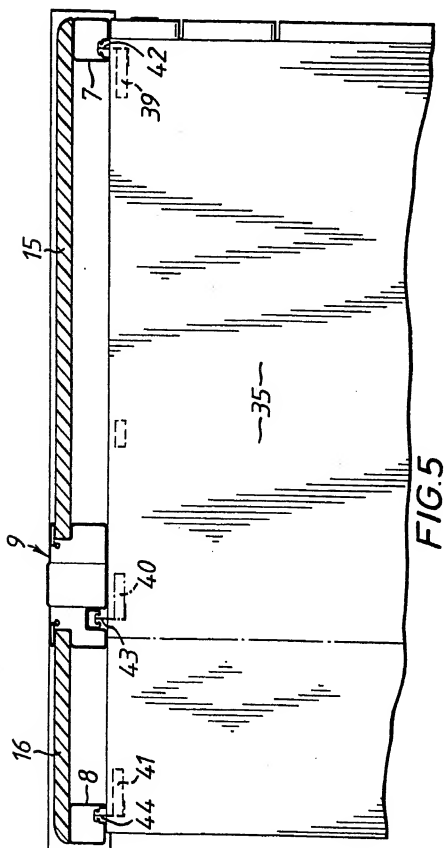


FIG. 1







5/8

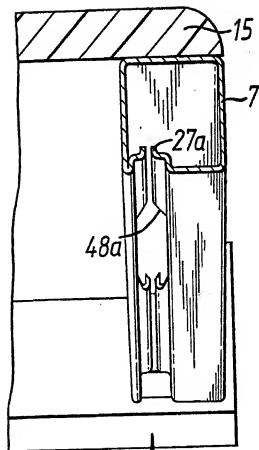
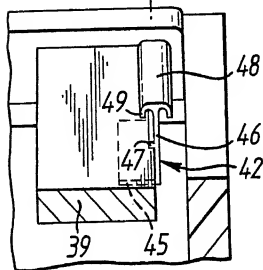
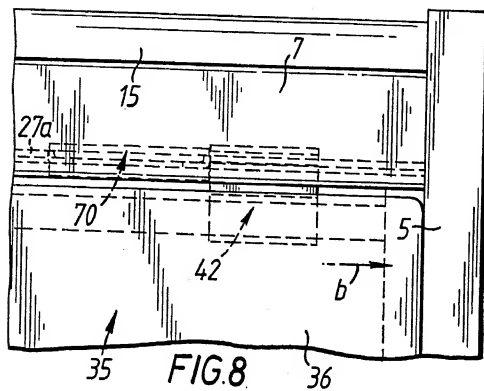
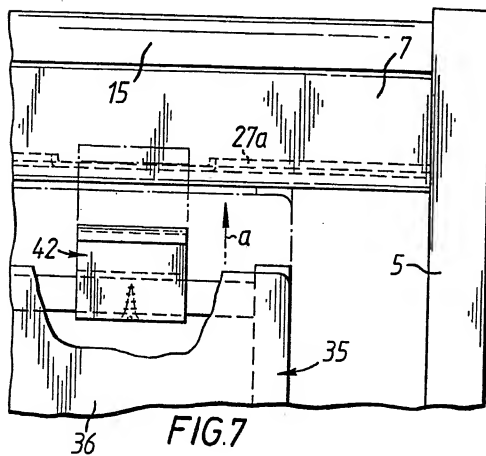
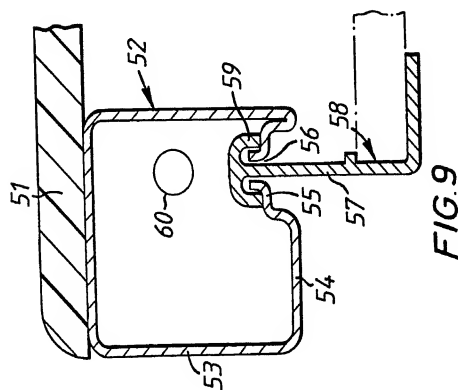
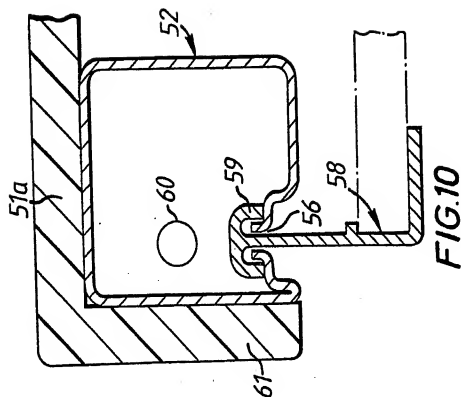


FIG. 6



6/8





THIS PAGE BLANK (USPTO)